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| APPLICATION NO.             | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------------------|-------------|----------------------|---------------------|------------------|
| 10/690,061                  | 10/21/2003  | Masahiro Yasohara    | MAT-8474US          | 3490             |
| 23122                       | 7590        | 08/21/2007           |                     |                  |
| RATNERPRESTIA               |             |                      | EXAMINER            |                  |
| P O BOX 980                 |             |                      | MCCLOUD, RENATA D   |                  |
| VALLEY FORGE, PA 19482-0980 |             |                      |                     |                  |
|                             |             |                      | ART UNIT            | PAPER NUMBER     |
|                             |             |                      | 2837                |                  |
|                             |             |                      | MAIL DATE           | DELIVERY MODE    |
|                             |             |                      | 08/21/2007          | PAPER            |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/690,061

Applicant(s)

YASOHARA ET AL.

Examiner

Renata McCloud

Art Unit

2837

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 7-10 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2,4,6 is/are allowed.
- 6) ☒ Claim(s) 1,3 and 5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Lewis (US 4797579).

**Claim 1:** Lewis teaches a gate driver comprising a first current source (fig. 4:30) outputting a first current value (current from 30) to charge the input capacitance and raise an potential of a gate electrode in a time corresponding to a charging time of the input capacitance when changing the transistor from a shut off state to a conductive state (col. 3:45-4:2); a second current source (fig 4:32) outputting a second current value (current from 32) to discharge the input capacitance and lower a potential of a gate electrode in a time corresponding to the charging time of the input capacitance when changing the transistor from a conductive state to a shut off state (col. 3:45-4:2); wherein said first current value and said second current value (currents from 30 and 32) are set based on at least one kind of current source control information ( $V_{in}$ ), and wherein the time of change from the shut-off state to the conductive state of the power transistor is controlled by controlling the rise time of the electric potential of said gate electrode with the first current value set with said current source control information, while the time of change from the conductive state to the shut-off state of the power

transistor is controlled by controlling the fall time of the electric potential of the gate electrode with the second current value (col. 3:45-4:2; col. 5:45-6:3).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 3 rejected under 35 U.S.C. 103(a) as being unpatentable over Lewis in view of Hsiao et al (6437611).

**Claim 3:** Lewis teaches the limitations of claim 1. Referring to claim 3 Lewis teaches current source info supplied from outside (fig. 4:Vin; Fig. 1: 12). Lewis does not teach the first and second current sources are formed by at least a monolithic integrated circuit. Hsiao et al teach first and second current sources are formed by at least a monolithic integrated circuit (col. 2:28-36) and at least one piece of current source information supplied from outside the circuit (col. 2:47-49) assigns the first and second current values (fig. 2:260,265). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus taught by Lewis to form the current sources as taught by Hsiao et al in order to control the current to the drivers.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lewis in view of Kogushi (US 6236239).

**Claim 5:** Lewis teaches the limitations of claim 1. Referring to claim 5, Lewis teaches the current source information is fed into two input terminals (fig. 4: terminal into 30, terminal into 32) that receive a control signal (Vin). They not teach each of the input terminals is coupled with a passive element which assigns the first and second current values. Kogushi teaches current source control information is fed into two input terminals (VP, VN) that receive a gate driver control signal (fig. 9: from 3/15/16) and each one of the input terminals (VP, VN) is coupled with a passive element (fig. 9:17,18; fig. 1:15/24, 16/25) which assigns the first and second currents (col. 2:39-46, 3:59-65, 4:6-20; col. 10:12-16, 49-52). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus taught Lewis to include current source info as taught by Kogushi et al in order to limit the current to the drivers.

### ***Response to Arguments***

6. Applicant's arguments with respect to claims 1,3,5 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

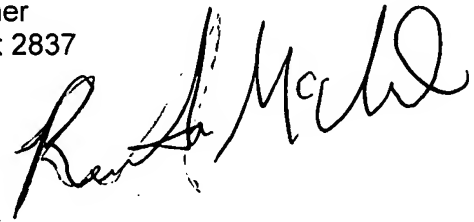
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Renata McCloud whose telephone number is (571) 272-2069. The examiner can normally be reached on Mon.- Fri. from 5:30 am - 2pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lincoln Donovan can be reached on (571) 272-2800 ext. 37. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2837

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Renata McCloud  
Examiner  
Art Unit 2837

A handwritten signature in black ink, appearing to read 'Renata McCloud', written over a faint rectangular stamp.

rdm